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09/722,828	11/28/2000	Masanobu Ninomiya	107971	5519

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[REDACTED] EXAMINER

DOTE, JANIS L

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1756

DATE MAILED: 05/08/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/722,828	NINOMIYA et al
	Examiner J. DOTE	Group Art Unit 1756

*(Signature)*  
—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- Responsive to communication(s) filed on 3/12/02
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- Claim(s) 1 - 20 is/are pending in the application.
- Of the above claim(s) 13 - 20 is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 1 - 12 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

**Application Papers**

- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- All  Some\*  None of the:
- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received  
in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

**Attachment(s)**

- Information Disclosure Statement(s), PTO-1449, Paper No(s). 2  Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892  Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948  Other \_\_\_\_\_

**Office Action Summary**

1. This Office action is responsive to applicants' response filed in Paper No. 5 on Mar. 12, 2002. Claims 1-20 are pending.

2. Applicants' election with traverse of the invention of Group I, claims 1-12, in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the subject matter of claims 1-20 is sufficiently related that a thorough search for the subject matter of any one group would necessarily encompass a search for the subject matter of the remaining groups.

Applicants also argue that the search of claims 1-20 could be performed without serious burden. This is not found persuasive because applicants have not controverted the reasons set forth in the restriction requirement that the inventions of Groups I and II are patentably distinct. The searches for the toner and process of using are not co-extensive. A search for the toner does not require a search in the process-of-using subclass 430/126. The distinct and exclusive mandatory searches for the toner in Group I and the process in Group II and the distinct issues of patentability establish an undue burden on the Office.

The requirement is still deemed proper and is therefore made FINAL.

Claims 13-20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected

invention, there being no allowable generic or linking claim.

Applicants timely traversed the restriction (election) requirement in Paper No. 5.

3. The Japanese patents listed on the form PTO-1449 filed on Nov. 28, 2000, attached to Paper No. 2, have been considered. The explanations of the relevance of said Japanese patents are found in the instant specification at page 4, lines 11-24, and page 5, lines 1-6, 12-15, and 20-23.

4. The disclosure is objected to because of the following informalities:

(1) The use of trademarks, e.g., Luzex 500 [sic: LUZEX 500] at page 13, lines 20-21, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

(2) Tables 3 and 7 report the values of Mn in two lines, e.g., first line has the number "2050" and second line has the number "0". The number 20500 should be written on the same line.

(3) Table 4 label toners 5 and 6 both as "Comparative Example 1." However, the specification at pages 30 and 31 labels the toners 5 and 6 as Comparative Examples 2 and 3, respectively.

(4) Examples 6 and 7 and comparative examples 4, 5, and 7 use WAX D or WAX E. However, the specification does not identify WAX D or WAX E. See Table 6 at page 39.

(5) The specification at page 45, line 24, and at page 46, line 7, discloses that the toners in comparative examples 6 and 7 comprise a value of the "differential molecular weight" of the molecular weight  $1 \times 10^6$  larger than 0.15%. However, Table 7 at page 43 reports that said toners comprise a value of the differential molecular weight of the molecular weight  $1 \times 10^5$  larger than 0.15%.

Appropriate correction is required.

5. Claim 1 is objected to because of the following informalities:

The phrase "distributionrespectively" is missing a space between the words "distribution" and "respectively."

Appropriate correction is required.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-4, 6-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,250,382 (Shimojo) combined with US 5,079,123 (Nanya).

Shimojo discloses a two-component developer comprising a carrier and a toner comprising a colorant and a binder resin.

The binder resin comprises a domain-matrix structure. The domain comprises a domain resin having a Mw of 12,000 and a ratio of Mw/Mn of 2.4. The matrix comprises a matrix resin having a Mw of 21,000 and a ratio of Mw/Mn of 3.1. The domain and matrix are present in a weight ratio of 50:50. See example 31 at col. 71, and binder resin 28 in Table 22 at cols. 69-70. The domain resin and matrix resin are within the molecular weight limitations of binder resins (A) and (B), respectively, recited in instant claims 2 and 8.

Shimojo does not disclose that his toner has the molecular weight-by-GPC properties of the THF-dissolved components of the toner recited in instant claims 1, 6, and 7. However, the instant specification discloses that by using a binder resin comprising binder resins (A) and (B) having the molecular weight limitations recited in instant claims 2 and 8 at a ratio of from 2:8 to 8:2, the toner having the molecular weight properties recited in instant claim 1 or a toner having the molecular weight properties recited in instant claims 6 and 7 "can be suitably prepared." See the instant specification, page 15, lines 22-25, and examples 2, 3, 5, 6, and 7. Because Shimojo's toner comprises a domain resin and a matrix resin that are within the limitations of resins (A) and (B) recited in instant claims 2 and 8, and are present in a weight ratio of 50:50, it is reasonable to presume that Shimojo's toner has the molecular

weight requirements recited in instant claims 1, 6, and 7. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Shimojo's toner in example 31 does not comprise a wax as recited in the instant claims. However, Shimojo discloses that a wax can be added to the toner for the purpose of improving the anti-offset properties of the toner. Col. 17, lines 18-20. Shimojo further discloses that the wax preferably melts not lower than 50°, and can be a carnauba wax. Col. 17, lines 21-25 and 61.

Nanya discloses the advantages and disadvantages of using conventional carnauba wax. Col. 1, lines 61-65, and col. 2, lines 3-11. To overcome these disadvantages, Nanya discloses a carnauba wax "substantially free of aliphatic acids." Nanya discloses that the content of the aliphatic acids in the carnauba wax is preferably less than 1 wt%. Nanya, col. 2, lines 14-34, and 44-45. Nanya discloses that due to the removal of the aliphatic acids, the size of the wax crystal decreases to 1 µm or less, when dispersed in the binder resin, which is much smaller than the crystal size of conventional carnauba wax. Nanya discloses that for this reason, a toner comprising the carnauba wax substantially free of aliphatic acids is free from filming problems and exhibits high resistance to both off-set and winding phenomena. Col. 2, lines 46-57. Nanya further discloses that

said toners have a lower fixing temperature and provide images with no background stain. Col. 2, lines 17-21. Nanya exemplifies the use of carnauba waxes "substantially free of aliphatic acids" having a melting point of 83°C. See example 1. The melting point of 83°C is within the range of 70 to 100°C recited instant claims 3 and 9.

Nanya does not disclose that his carnauba wax has a melt viscosity as recited in instant claims 4 and 10. However, the instant specification in Table 6 at page 39, discloses a granular purified carnauba wax having a melting point of 83°C and a melt viscosity at 110°C of 50 mPa·sec, which meets the viscosity limitation recited in claims 4 and 10. Because Nanya's carnauba wax appears to be the same as that disclosed in the instant specification, it is reasonable to conclude that Nanya's carnauba wax has a melt viscosity that meets the viscosity recited in instant claims 4 and 10. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Nanya, to use Nanya's carnauba wax "substantially free of aliphatic acids" in Shimojo's toner, because that person would have had a reasonable expectation of successfully having a developer having the benefits disclosed by Nanya.

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 09/706,800 (Application'800). Although the conflicting claims are not identical, they are not patentably distinct from each other because Application'800 also claims a toner for developing an electrostatic latent image. The toner comprises a binder resin, a colorant, and a wax. The toner has particular complex viscosity properties. The binder resin comprises binder resin (A) and binder resin (B), wherein binder resin (A) has a weight average molecular weight (Mw) ranging from 8000 to 18,000, and an (Mw/Mn) ratio of the weight average molecular weight (Mw) to the number average molecular weight (Mn) ranging from 2 to 4.

See reference claim 4, which depends from reference claim 3.

Reference claim 5, which also depends from reference claim 3, recites that binder resin (B) has a Mw ranging from 20,000 to 35,000, and an (Mw/Mn) ratio ranging from 3 to 5.

Application'800's binder resins (A) and (B) meet the limitations of binder resins (A) and (B) recited in instant claims 2 and 8. Application'800's claims 7 and 8 further recite that the wax has a melting point ranging from 70 to 100°C or that the wax has a melt viscosity ranging from 1 to 200 mPa•s at 110°C, respectively. Application'800's wax recited in reference claims 7 and 8 meets the wax limitations recited in instant claims 3, 4, 9, and 10. Application'800 further claims toners that contain 1 to 10 wt% by weight of inorganic particles. See reference claim 2. Application'800 discloses that the inorganic fine particles are internally added to the toner.

Application'800, page 11, lines 11-13, and in examples 1-3 at page 29-33. Thus, the addition of inorganic fine particles recited in Application'800's reference claim 2 meets the inorganic fine particles limitation recited in instant claims 5 and 11. Application'800 also claims a two-component developer comprising a carrier added to the Application'800's toner. See reference claim 11.

Application'800 does not expressly claim toners having the molecular weight properties of the THF dissolved components of

the toner recited in instant claims 1, 6, and 7. However, as discussed above, Application'800's toner meets the compositional limitations of the instant claims. Application'800 discloses that when binder resins (A) and (B) recited in reference claims 4 and 5 are mixed in a ratio outside the range of 4:6 to 8:2, it is difficult to satisfy the complex viscosity properties recited in reference claim 1. Application'800, page 16, line 24, to page 17, line 2. The instant specification discloses that by using a binder resin comprising binder resins (A) and (B) having the molecular weight limitations recited in instant claims 2 and 8 at a ratio of from 2:8 to 8:2, the toner having the molecular weight properties recited in instant claim 1 or a toner having the molecular weight properties recited in instant claims 6 and 7 "can be suitably prepared." See the instant specification, page 15, lines 22-25, and examples 2, 3, 5, 6, and 7. The ratio of 4:6 to 8:2 is within the range of 2:8 to 8:2. Because Application'800's toner comprises its binder resins (A) and (B) in amounts such that the toner has the complex viscosity properties recited in reference claim 1, it is reasonable to presume that Application'800's toner also has the molecular weight properties recited in instant claims 1, 6, and 7. The burden is on applicants to prove otherwise.

Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of subject matter recited in Application'800's claims, to make and use a toner that meets the compositional limitations recited in the instant claims such that said toner has the complex viscosity properties recited in reference claim 1, because that person would have had a reasonable expectation of successfully obtaining a toner for developing an electrostatic latent image.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

JLD  
May 4, 2002

*Janis L. Dote*  
JANIS L. DOTE  
PRIMARY EXAMINER  
GROUP 1500  
1700